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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/594,221	06/14/2000	Mark A. Horowitz	RB1-003US	7838
29150	7590	03/03/2004	EXAMINER	
LEE & HAYES, PLLC 421 W. RIVERSIDE AVE, STE 500 SPOKANE, WA 99201			PHU, PHUONG M	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 03/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/594,221

Applicant(s)

HOROWITZ ET AL.

Examiner

Phuong Phu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 1/9/04.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 22-24 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art.

As per claims 22-24, 32 and 33, see figure 1 and page 2, line 10 to page 3, line 13 of the specification of the instant application, the admitted prior art discloses a method and associated system comprising:

step/means having a first device (100), as claimed;

step/means having a first connector (102), as claimed;

step/means having a second connector (104) coupled to the first connector through a first plurality of conductors, as claimed ; and

step/means having a second device (106) coupled to the second connector through a second plurality of conductors, as claimed.

The admitted prior art does not disclose that the first device and second device have the same inductive coefficients. However, it is well-recognized in the art that there would be a mismatch occurs between the first device and second device in the admitted prior art system if

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these two devices at the two ends do not have the same inductive coefficients, and the mismatch could lead to a degrade for system performance. On the other hand, implementing a system, which has a mismatch problem between two communication ends, with a matching circuit at the receiving end of the two communication ends in order to overcome the mismatch is well-known in the art, and the examiner takes Official Notice. Therefore, it would have been obvious for one skilled in the art to adjust the second device in the admitted prior art system by implementing a matching circuit at the second device in order to match the inductive coefficient of the second device with the one of the first device.

As per claim 34, admitted prior art does not disclose step of decoding signals outputted from the second device. However, the admitted prior art method is for driving signals for further processing. It would have been obvious that skilled in the art, for an application, could apply admitted prior art in a decoding system such that admitted prior art would pre-condition received signals and drive to them to a decoder for being decoded.

4. Claims 1-21, 25-31 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art admitted by the applicant in the specification in the instant application, in view of Kish et al (5,282,754), previously cited.

5. As per claims 1-6, 8-12, 14-20, 25-28, 30, and 35-38, see figure 1 and page 2, line 10 to page 3, line 13 of the specification of the instant application, the admitted prior art discloses a method and associated system comprising:

step/means having a first device (100), as claimed;

step/means having a first connector (102), as claimed;

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step/means having a second connector (104) coupled to the first connector through a first plurality of conductors, as claimed ; and

step/means having a second device (106) coupled to the second connector through a second plurality of conductors, as claimed.

The admitted prior art does not disclose that said first connector and second connector have alternating pairs of said first plurality of conductors are reversed. However, it is well-recognized in the art that there would be crosstalk happening for signal transmissions through the connector assembly of said first and second connectors due to inductive couplings occurred in these connectors. On the other hand, Kish et al teaches that crosstalk due to electromagnetic coupling occurred between two connector devices connected through plurality of conductors can be eliminated or reduced by reversing alternating pairs of these conductors (see figure 4, and col. 4, lines 43-62). Therefore, it would have obvious for one skilled in the art, when building the admitted prior art system, to reverse alternating pairs of the first plurality of conductors connected between the first and second connectors, as taught by Kish et al, in order to eliminate or reduce crosstalk between these two connectors.

Further regarding to claims 1, 10, 15, 26, and 35-38, the admitted prior art in view of Kish et al teaches that the alternating pairs of the first plurality of conductors connected between the first and second connectors can be reversed at positions between the first and second connectors, starting from the first connector to the second connector (see Kish et al, see reverse positions starting from positions (30, 32) of a first connector (10) to positions (52, 54) of a second connector (50) shown in figures 3 and 4, col. 4, lines 15-62). Or in another word, it can be said that the alternating pairs of the first plurality of conductors connected between the first

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and second connectors is reversed at any positions between the first and second connectors, starting from the first connector to the second connector; or the alternating pairs of the first plurality of conductors connected between the first and second connectors has reverse positions offset toward one of the first and second connectors wherein these reverse positions are between the first and second connectors.

Further regarding to claims 9, 11, 27 and 26, the admitted prior art does not disclose that said second connector and second device have alternating pairs of said second plurality of conductors are reversed. However, it is well-recognized in the art that there would be crosstalk happening for signal transmissions through the connector assembly of said second connector and second device due to inductive couplings occurred in them, and furthermore that, pairs of the second plurality of conductors, corresponding to the reversed pairs of the first plurality of conductors, must be reversed so that signals on paths through theses pairs would be driven properly in polarity to the second device. Therefore, it would have obvious further for one skilled in the art, when building the admitted prior art system, to reverse pairs of the second plurality of conductors, corresponding to the reversed pairs of the first plurality of conductors so that crosstalk between the second connector and second device could be eliminated or reduced and signals on path through theses pairs would be driven properly in polarity to the second device.

As per claims 7, 13, 21 and 31, the admitted prior art, in view of Kish et al, does not disclose that the first device and second device have the same inductive coefficients. However, it is well-recognized in the art that there would be a mismatch occurs between the first device and second device in the admitted prior art system if these two devices at the two ends do not

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have the same inductive coefficients, and the mismatch could lead to a degrade for system performance. On the other hand, implementing a system, which has a mismatch problem between two communication ends, with a matching circuit at the receiving end of the two communication ends in order to overcome the mismatch is well-known in the art, and the examiner takes Official Notice. Therefore, it would have been obvious for one skilled in the art to adjust the second device in the admitted prior art system by implementing a matching circuit at the second device in order to match the inductive coefficient of the second device with the one of the first device.

Claim 29 is rejected with similar reasons set forth above for claim 34.

Response to Arguments

6. Applicant's arguments filed on 1/9/04 have been fully considered but they are not persuasive.

- Regarding to claims 1, 10, 15 and 26, the applicant mainly argues that Kish et al teaches directly away from applicant's claimed subjected matter by requiring that the crossover between alternative pairs of conductors be at the midpoint; in contract, the claims recite that alternative pairs of conductors are reversed at any position between the first and second conductors. The examiner respectively disagrees. Note that the rejection is based on the limitations given in the claims, which recite that alternative pairs of conductors are **reversed** at any position between the first and second connectors, and which **do recite** that alternative pairs of conductors are **crossed over** at any position between the first and second connectors.

On the other hand, as explained in the above rejection, the admitted prior art in view of Kish et al teaches that the alternating pairs of the first plurality of conductors connected between

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the first and second connectors can be reversed at positions between the first and second connectors, starting from the first connector to the second connector (see Kish et al, see reverse positions starting from positions (30, 32) of a first connector (10) to positions (52, 54) of a second connector (50) shown in figures 3 and 4, col. 4, lines 15-62). Or in another word, it can be said that the alternating pairs of the first plurality of conductors connected between the first and second connectors is reversed at any positions between the first and second connectors, starting from the first connector to the second connector; or the alternating pairs of the first plurality of conductors connected between the first and second connectors has reverse positions offset toward one of the first and second connectors wherein these reverse positions are between the first and second connectors. Therefore, the claims are deemed not to be patentable over the admitted prior art in view of Kish et al with reasons set forth above.

- Regarding to claim 22 and 32, the applicant requests the examiner provide documentary evidence for the rejection.

As explained above in the rejection to the claim, the admitted prior art does not disclose that the first device and second device have the same inductive coefficients. However, it is well-recognized in the art that there would be a impedance mismatch occurs between the first device and second device in the admitted prior art system if these two devices at the two ends do not have the same resistive components, and the same reactive components, i.e., the same inductive coefficients, and the mismatch could lead to a degrade for system performance. In order to overcome this problem, one of the solution is one of the two devices should be modified or adjusted to obtain impedance matching with the other device wherein when the matching condition is met, their resistive components, and reactive components are equal in magnitude but

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of opposite signs. In order to clarify this matter, the examiner now cites reference Will (4,079,415). Will teaches that impedance mismatched between a pair of two port networks will results power loss, and a solution of impedance matching between the two port networks would maximize the power transfer between the two port networks (see abstract, and col. 2, lines 3-10 and 43-53). In addition, using impedance adapters to adjust impedance of a two-port network in order to obtain a desired impedance in a communication with another two-port network is well-known in the art. In order to clarify this matter, the examiner now cites reference Benayoun et al (5,771,262). Benayoun et al teaches using impedance adapters to adjust impedance of a two-port network in order to obtain a desired impedance in a communication with another two-port network (see col. 1, lines 16-24).

Therefore, for an application in the admitted prior art system, if there is an impedance mismatch occurred between the first device and second device, it would have been obvious that one skilled in the art, when building or carrying out the admitted prior art invention, could adjust the second device by using impedance adapters to adjust impedance of the second device in order to obtain an impedance match condition with the first device; wherein when the impedance match condition is met, the inductive coefficients in the impedance of the second device is inherently the same in magnitude with the one of the first device.

Based on the above rationale, it is believed that the limitations of claims are still met and therefore, the rejections are still maintained.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 703-308-0158. The examiner can normally be reached on M-F (8:30-6:00) First Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuong Phu
Primary Examiner
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**PHOUNG PHU
PRIMARY EXAMINER**